

common carrier basis. In that case, operators should indicate the number of transponders sold on each in-satellite orbit.

(4) Identification of any transponders not available for service or otherwise not performing to specifications, the cause of these difficulties, and the date any transponder was taken out of service or the malfunction identified.

[58 FR 13420, Mar. 11, 1993, as amended at 61 FR 9952, Mar. 12, 1996; 62 FR 5931, Feb. 10, 1997; 62 FR 61457, Nov. 18, 1997; 68 FR 51508, Aug. 27, 2003; 69 FR 54587, Sept. 9, 2004; 70 FR 32256, June 2, 2005]

§ 25.211 Analog video transmissions in the Fixed-Satellite Services.

(a) Downlink analog video transmissions in the band 3700–4200 MHz shall be transmitted only on a center frequency of 3700+20N MHz, where N=1 to 24. The corresponding uplink frequency shall be 2225 MHz higher.

(b) All 4/6 GHz analog video transmissions shall contain an energy dispersal signal at all times with a minimum peak-to-peak bandwidth set at whatever value is necessary to meet the power flux density limits specified in § 25.208(a) and successfully coordinated internationally and accepted by adjacent U.S. satellite operators based on the use of state of the art space and earth station facilities. Further, all transmissions operating in frequency bands described in § 25.208 (b) and (c) shall also contain an energy dispersal signal at all times with a minimum peak-to-peak bandwidth set at whatever value is necessary to meet the power flux density limits specified in § 25.208(b) and (c) and successfully coordinated internationally and accepted by adjacent U.S. satellite operators based on the use of state of the art space and earth station facilities. The transmission of an unmodulated carrier at a power level sufficient to saturate a transponder is prohibited, except by the space station licensee to determine transponder performance characteristics. All 12/14 GHz video transmissions for TV/FM shall identify the particular carrier frequencies for necessary coordination with adjacent U.S. satellite systems and affected satellite systems of other administrations.

(c) All initial analog video transmissions shall be preceded by a video test transmission at an uplink e.i.r.p. at least 10 dB below the normal operating level. The earth station operator shall not increase power until receiving notification from the satellite network control center that the frequency and polarization alignment are satisfactory pursuant to the procedures specified in § 25.272. The stationary earth station operator that has successfully transmitted an initial video test signal to a satellite pursuant to this paragraph is not required to make subsequent video test transmissions if subsequent transmissions are conducted using exactly the same parameters as the initial transmission.

(d) An earth station may be routinely licensed for transmission of full transponder video analog services provided:

(1) In the 5925–6425 MHz band, with an antenna equivalent diameter 4.5 meters or greater, the maximum input power into the antenna does not exceed 26.5 dBW; or

(2) In the 14.0–14.5 GHz band, with an antenna equivalent diameter of 1.2 meters or greater, the maximum input power into the antenna does not exceed 27 dBW.

(e) Antennas smaller than those specified in paragraph (d) of this section are subject to the provisions of § 25.220, which may include power reduction requirements. These antennas will not be routinely licensed for transmission of full transponder services.

(f) Each applicant for authorization for analog transmissions in the fixed-satellite service proposing to use maximum power into the antenna in excess of those specified in § 25.211(d), must comply with the procedures set forth in § 25.220.

[58 FR 13421, Mar. 11, 1993, as amended at 61 FR 9952, Mar. 12, 1996; 62 FR 5931, Feb. 10, 1997; 70 FR 32256, June 2, 2005]

§ 25.212 Narrowband analog transmissions, digital transmissions, and video transmissions in the GSO Fixed-Satellite Service.

(a) Except as otherwise provided by this part, criteria for unacceptable levels of interference caused by other satellite networks shall be established on

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the basis of nominal operating conditions and with the objective of minimizing orbital separations between satellites.

(b) Emissions with an occupied bandwidth of less than 2 MHz are not protected from interference from wider bandwidth transmissions if the r.f. carrier frequency of the narrowband signal is within ± 1 MHz of one of the frequencies specified in § 25.211(a).

(c) In the 14.0–14.5 GHz band, an earth station with an antenna equivalent diameter of 1.2 meters or greater may be routinely licensed for transmission of narrowband analog services with bandwidths up to 200 kHz if the maximum input power spectral density into the antenna does not exceed -8 dBW/4 kHz and the maximum transmitted satellite carrier EIRP density does not exceed 13 dBW/4 kHz. Such earth stations may be routinely licensed for transmission of narrowband and/or wideband digital services, including digital video services, if the maximum input spectral power density into the antenna does not exceed -14 dBW/4 kHz and the maximum transmitted satellite carrier EIRP density does not exceed $+6.0$ dBW/4 kHz. Antennas with a smaller major or minor axis in the 14 GHz band are subject to the provisions of § 25.220, which may include power reduction requirements.

(d)(1) For earth stations licensed before March 10, 2005 in the 5925–6425 MHz band, an earth station with an equivalent diameter of 4.5 meters or greater may be routinely licensed for transmission of SCPC services if the maximum power densities into the antenna do not exceed $+0.5$ dBW/4 kHz for analog SCPC carriers with bandwidths up to 200 kHz, and do not exceed -2.7 dBW/4 kHz for narrow and/or wideband digital SCPC carriers.

(2) For earth stations licensed after March 10, 2005 in the 5925–6425 MHz band, an earth station with an equivalent diameter of 4.5 meters or greater may be routinely licensed for transmission of SCPC services if the maximum power densities into the antenna do not exceed $+0.5$ dBW/4 kHz for analog SCPC carriers with bandwidths up to 200 kHz, and do not exceed $-2.7 - 10\log(N)$ dBW/4 kHz for narrow and/or wideband digital SCPC carriers. For

digital SCPC using frequency division multiple access (FDMA) or time division multiple access (TDMA) technique, N is equal to one. For digital SCPC using code division multiple access (CDMA) technique, N is the maximum number of co-frequency simultaneously transmitting earth stations in the same satellite receiving beam.

(3) Antennas with an equivalent diameter smaller than 4.5 meters in the 5925–6425 MHz band are subject to the provisions of § 25.220 of this chapter, which may include power reduction requirements.

(e) Each applicant for authorization for transmissions in the fixed-satellite service proposing to use transmitted satellite carrier EIRP densities, and/or maximum antenna input power densities in excess of those specified in paragraph (c) of this section in the 14.0–14.5 GHz band, or in paragraph (d) of this section in the 5925–6425 MHz band, respectively, must comply with the procedures set forth in § 25.220.

[58 FR 13421, Mar. 11, 1993, as amended at 62 FR 5931, Feb. 10, 1997; 62 FR 51378, Oct. 1, 1997; 70 FR 32256, June 2, 2005; 70 FR 33376, June 8, 2005]

§ 25.213 Inter-Service coordination requirements for the 1.6/2.4 GHz mobile-satellite service.

(a) Protection of the radio astronomy service in the 1610.6–1613.8 MHz band against interference from 1.6/2.4 GHz Mobile-Satellite Service systems.

(1) *Protection zones.* All 1.6/2.4 GHz Mobile Satellite Service systems shall be capable of determining the position of the user transceivers accessing the space segment through either internal radiodetermination calculations or external sources such as LORAN-C or the Global Positioning System. During periods of radio astronomy observations, land mobile earth stations shall not operate when located within geographic protection zones defined by the radio observatory coordinates and separation distances as follows:

(i) In the band 1610.6–1613.8 MHz, within a 160 km radius of the following radio astronomy sites:

Observatory	Latitude (DMS)	Longitude (DMS)
Arecibo, PR	18 20 46	66 45 11
Green Bank Telescope, WV	38 25 59	79 50 24